

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-29. (Cancelled)

30. (New) A device for automatically controlling an opening and closing of a slide door for a vehicle, wherein the slide door is adapted to open and close along a guide track installed in a vehicle body, the device comprising:

a drive device having a reversible motor and adapted to drive the slide door,
a door speed detection means for detecting the movement speed of the slide door with a predetermined time interval,

an over speed detection means for detecting an over speed difference by detecting continuously at least several times the over speed values which are higher than an upper limit value allowable with reference to a target speed of the slide door,

an under speed detection means for detecting an under speed difference by detecting continuously at least several times the under speed values, which are lower than a lower limit value allowable with reference to the target speed of the slide door,

an adjustment volume control means for adjusting a feedback adjustment volume for correcting the target speed based on the over speed difference or the under speed difference in accordance with the target speed,

an adjustment volume re-adjusting means for reflecting the feedback adjustment volume according to the over speed difference or the under speed difference, at least one time, on the motor control, as well as for re-adjusting the feedback adjustment volume of the over speed or the under speed according to the movement situation of the slide door,

a motor control means for controlling the drive force of the motor in accordance with the feedback adjustment volume adjusted by the adjustment volume control means or the adjustment volume re-adjusting means.

31. **(New)** A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 30, wherein the adjustment volume control means changes a magnification of the difference in accordance with the target speed.

32. **(New)** A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 30, wherein the adjustment volume control means changes a magnification of the difference in accordance with a position environment of the slide door.

33. **(New)** A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 30, wherein the adjustment volume re-adjusting means judges a possibility of pinch when the slide door advances and a motor load increases more than a normal value and wherein the adjustment volume re-adjusting means is further for decreasing the adjustment volume of the under speed or the number of adjustments, or for stopping re-adjustment even if the under speed detection means detects an under speed.

34. **(New)** A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 33 wherein the adjustment volume re-adjusting means is for decreasing the adjustment volume and outputs the re-adjustment volume when an adjustment volume re-adjusting means adjusts the adjustment volume less than a previous adjustment.

35. **(New)** A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 30, wherein the adjustment volume re-adjusting means reduces the number of times of the over speed adjustment or the under speed adjustment according to the position of the slide door and outputs the adjustment volume after the adjustment volume re-adjusting means reflects a detection result of the over speed or the under speed on the motor control operation.

36. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 30, wherein the motor control means includes a pulse width modulation control system.

37. (New) A device for automatically controlling an opening and closing of a slide door for a vehicle, wherein the slide door is adapted to open and close along a guide track installed in a vehicle body, the device comprising:

a drive device having a reversible motor and adapted to drive the slide door,
a motor load detection means for detecting a motor load value of the drive device,

a position detection means for detecting a position of the slide door guided by the guide track within a range from a position where the slide door is fully opened to a position where the slide door is fully closed,

a memory means for storing the motor load value detected by the motor load detection means at each position of the slide door along a predetermined sampling region of the guide track,

a correspondence data study means for correcting the motor load value based on a newly detected motor load value at the present door position, and for newly storing the corrected motor load at the present door position in the memory means, and

a pinch judgment means for reading out the motor load value at a predetermined door position in advance of the present door position in the sampling region and for calculating, based on the read out motor load value at the advanced door position and the motor load value at the present position, a forecasted motor load value at the advanced position of the door; and for judging whether a door pinch exists based on a deviation between the forecasted motor load value and the stored motor load value at the corresponding advanced door position.

38. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 37, wherein the motor load value is the motor current value detected intermittently.

39. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 37, wherein the motor load value is an average current value of a plurality of the motor current intermittently detected in the sampling region having an address corresponding to the door position.

40. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 37, wherein the motor load value stored in the memory means is a change rate of the current value or the average current value of a prior detected sampling region of the current value or the average current value detected in the sampling regions respectively arranged along the movement direction, and the current value or the average current value detected presently.

41. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 37, wherein the pinch judgment means changes a judgment degree according to the door position and operation direction when the pinch judgment means judges whether a pinch exists.

42. (New) A device for automatically controlling the opening and closing of the slide door for the vehicle according to claim 37, wherein the pinch judgment means looks for an increase slope of the recent motor load value when the pinch judgment means judges whether a pinch exists.